7. Evaluate:

a) $\lim_{x \to a} \frac{x^n - a^n}{x-a}$

b) Show that the function

$$f(x) = \begin{cases} x-1, & x \leq 2 \\ 2x-3, & x > 2 \end{cases}$$

In continuous at $x=2$

8. a) Find dy/dx from $ax^2 + 2hxy + by^2 = 1$

b) Evaluate : $\int \frac{1}{\sqrt{x+a} + \sqrt{x-b}} dx$

9. Prove that in a Boolean algebra

i) $(a')' = a$

ii) $(a.b)' = a' + b'$

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